

AMENDMENTS TO THE CLAIMS

1. (currently amended) An electrical device for self-clocked controlled pseudo random noise (PN) sequence generation, comprising:

a plurality of sequence generator units for outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t), and

step pattern generators for selecting a step pattern, comprising said plurality of clock values (C_t), from a plurality of possible step patterns on the basis of a step pattern select signal (W_t);

wherein said step pattern select signal (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived step pattern select signals (W_{t-1});

wherein said plurality of sequence generator units further outputs a plurality of step control values (u_t); and

wherein said combined value (U_t) is provided on the basis of said plurality of step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

2. (canceled)

3. (canceled)

4. (currently amended) An electrical device according to claim 2, 1 wherein the number of said plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as: $U_t + W_{t-1} \text{ MOD } 6$.

5. (currently amended) An electrical device according to claim 2, 1, wherein the number of said plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3} \text{ MOD } 6$, where a_1 , a_2 , and a_3 are pre-selected constants.

6. (currently amended) An electrical device according to claim 2, 1, wherein if the number of said plurality of possible step patterns is not a prime number, then said pattern select signal (W_t) is derived on the basis of said combined value (U_t) and said previously derived step pattern select signals (W_{t-1}) using a Chinese remaindering technique.

7. (previously presented) An electrical device according to claim 1, wherein said plurality of possible step patterns includes (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

8. (previously presented) An electrical device according to claim 1, wherein said device further comprises a function generating unit for calculating an output value (Out_t) as the sum of said plurality of sequence values (Z_t) MOD 2.

9. (previously presented) An electrical device according to claim 1, wherein said plurality of sequence generator units comprise m-sequence generators.

10. (previously presented) An electrical device according to claim 1, wherein said device is used in a mobile telephone.

11. (currently amended) A method of self clock controlled pseudo random noise (PN) sequence generation, comprising the steps of:

outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t), and

selecting a step pattern, providing said plurality of clock values (C_t), from a plurality of possible step patterns on the basis of a step pattern select signal (W_t);

wherein said method further comprises the steps of:

deriving said step pattern select signal (W_t) on the basis of a combined value (U_t) and one or more previously derived step pattern select signals (W_{t-1});

generating a plurality of step control values (u_t); and

providing said combined value (U_t) on the basis of said plurality of step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

12. (canceled)

13. (canceled))

14. (currently amended) A method according to claim ~~12~~ 11, wherein the number of said plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as: $U_t + W_{t-1} \text{ MOD } 6$.

15. (currently amended) A method according to claim ~~12~~ 11, wherein the number of said plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3} \text{ MOD } 6$, where a_1 , a_2 , and a_3 are pre-selected constants.

16. (currently amended) A method according to claim ~~12~~ 11, wherein said pattern select signal (W_t) is derived on the basis of said combined value (U_t) and said previously derived step pattern select signals (W_{t-1}) using a Chinese remaindering technique, if the number of said plurality of possible step patterns is not a prime number.

17. (previously presented) A method according to claim 11, wherein said plurality of possible step patterns is: (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

18. (previously presented) A method according to claim 11, wherein said method further comprises the step of calculating a value (Out_t) as the sum of said plurality of sequence values (Z_t) MOD 2.

19. (previously presented) A method according to claim 11, wherein said plurality of sequence values (Z_t) is generated by a plurality of m-sequence generators.

20. (previously presented) A method according to claim 11, wherein said method is used in a mobile telephone.